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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,738	10/29/2003	Jan Ehrhard	003-092	5294

36844 7590 11/08/2005

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515 E. BRADDOCK RD  
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EXAMINER
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WIEHE, NATHANIEL EDWARD

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/694,738

Applicant(s)

EHRHARD ET AL.

Examiner

Nathan Wiehe

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 13, 15, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 9-12, 17, 20 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 06242004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 24 June 2004 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the bayonet catch elements (see claim 17) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because of undue length and reference to Fig. 1. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities:

On page 1, in the fourth line under Field of the Invention, the specification references the claims, and

On page 4, in lines 2-4, the specification references the claims.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3-8,13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Bilton (3,377,957). Bilton discloses an emergency cooling system for a component (4,1,2) subjected to thermal load. Bilton's cooling system includes a first wall side (12) acted on by heat and a second wall side (10) acted on by a cooling fluid (Bilton column 1, lines 47-54) including an emergency cooling opening (14) closed off by a plug (16,12) configured and arranged to melt at a predetermined temperature (Bilton column 1, lines 31-37). The plug (16,12) comprises a main body (16) of low melting-point alloy which is produced separately from the component (4,1,2) and the plug (16,12) and the plug (16,12) is connected to the component (4,1,2) in a positive locking manner by an external screw thread on the plug (16,12) and a complementary internal screw thread in the emergency cooling opening (14) (Bilton column 1, lines 42-47 & Fig. 1). The plug (16,12) of Bilton is inherently configured to melt when exposed to a predetermined temperature for a predetermined time, has a melting point greater than the maximum

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normal operational temperature of the component, and relatively quickly when the melting point is reached.

Claims 1,6,7,8 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Corsmeier (4,136,516). Corsmeier discloses an emergency cooling system for a component (216), of a turbine (20), subject to a thermal load. The component of Corsmeier includes a first wall side acted on by heat and a second wall side acted on by a cooling fluid and an emergency cooling opening (228) closed off by a plug (230) which is configured and arranged to melt at a predetermined temperature (See Fig. 7). The plug (230) of Corsmeier is produced separately from the component (216) and is made of a material having a melting point less than that of the component (216) (Corsmeier column 9, lines 62-63). The plug of Corsmeier is inherently configured and arranged to melt when exposed to a predetermined temperature for a predetermined time and to melt relatively quickly.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corsmeier, as applied to claim 1 above, in view of Taras (6,454,156). Corsmeier discloses the invention substantially as claimed except for the means for connection the plug to the component. Taras discloses a turbine blade (112) plug (104) secured in a

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positive locking manner by external screw threads (124) on the plug (104) and corresponding internal screw threads (128) in the cooling openings (3) and is soldered (Taras Fig. 2 and column 7, lines 31-39). It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the plug and hole of Corsmeier by including external and internal screw thread, respectively and by bonding the two by soldering as taught by Taras in order to mechanically lock and secure the plugs within the cooling openings.

Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corsmeier in view of Taras. Corsmeier discloses an emergency cooling system for a component (216), of a turbine (20), subject to a thermal load. The component of Corsmeier includes a first wall side acted on by heat and a second wall side acted on by a cooling fluid and an emergency cooling opening (228) closed off by a plug (230) which is configured and arranged to melt at a predetermined temperature (See Fig. 7). The plug (230) of Corsmeier is produced separately from the component (216) and is made of a material having a melting point less than that of the component (216) (Corsmeier column 9, lines 62-63). The plug of Corsmeier is inherently configured and arranged to melt when exposed to a predetermined temperature for a predetermined time and to melt relatively quickly. Corsmeier does not disclose the specific connection means between the plugs and the cooling openings. Taras discloses a turbine blade (112) plug (104) secured in a positive locking manner by external screw threads (124) on the plug (104) and corresponding internal screw threads (128) in the cooling openings (3) and is soldered (Taras Fig. 2 and column 7, lines 31-39). It would have been obvious at the

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time the invention was made to one of ordinary skill in the art to modify the plug and hole of Corsmeier by including external and internal screw thread, respectively and by bonding the two by soldering as taught by Taras in order to mechanically lock and secure the plugs within the cooling openings.

***Allowable Subject Matter***

Claims 9-12, 17, 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent issued to Kottilingam discloses a method of installing plugs. The patent issued to Budinger discloses a method of brazing for tip cap holes. The patent issued to Silverstein discloses a bonding method for plugs. The patent issued to McCarty discloses a heat responsive element used to control cooling fluid.

***Conclusion***

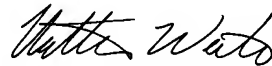
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan Wiehe  
Examiner  
Art Unit 3745



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11/2/05